beams disposed in accordance with said rectangular meshing, and

(2) said phase function introducing a phase shift between two adjacent secondary beams such that said two adjacent secondary beams are in phase opposition, and

(b) creating and observing an image formed by interference between said secondary beams in a plane located at a predetermined distance from said perpendicular plane, deformations in said image being related to the slopes of the analyzed wavefront.

Amend allowable claim 4 to read as follows:

4. A system for analyzing the wavefront of a light beam, comprising:

(a) input optics optically conjugating a reference plane with a plane in which said wavefront is analyzed,

(b) a two-dimensional intensity grating with rectangular meshing in the reference plane, said intensity grating having an elementary intensity mesh in which an elementary intensity pattern is disposed and which is of length L in a first direction of said rectangular meshing and of width 1 in a second direction of said rectangular meshing,

(c) a two-dimensional phase grating with rectangular meshing in the reference plane, said phase grating having an elementary phase mesh in which an elementary phase pattern is disposed and which is of length 2L in the first direction of said rectangular meshing of said phase grating and of width 21 in the second direction of said rectangular meshing of said phase grating,

(d) said elementary phase meshes having sides coinciding with sides of said elementary intensity meshes, and said elementary phase pattern

introducing a phase shift close to π (modulo 2π) between two secondary beams passing through two adjacent elementary intensity patterns, and

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(e) means for observing an image formed by interference between said secondary beams in a plane located at a predetermined distance from said reference plane, deformations in said image being related to the slope of the analyzed wavefront.

REMARKS

Claims 1-8, as amended, remain in the application, apparatus claims 4-8 having been allowed.

Allowance of method claims 1-3, as amended for matters of form, is courteously solicited for the following reasons.

According to Applicant's invention, a particular intensity function (of the intensity grating) and a particular phase function (of the phase grating) are multiplied, thereby diffracting a rectangular meshing of secondary beams (Page 8, lines 8-20), whereupon a rectangular meshing of a light spot is observed in the plane of the grating. This corresponds with the constitution of the two-dimensional diffraction grating or with a two-dimensional intensity grating GI and a two-dimensional phase grating GP, as recited in allowed claim 4.

Applicant's invention as recited in amended claims 1-3 is clearly distinguishable from the cited references.

In the article "Achromatic three-wave (or more) lateral shearing interferometer," 1995, cited in Page 6 of the application, Primot, et al., suggest means for obscuring and processing an image formed by interference between secondary beams resulting from a diffraction of the light beam. The observing and processing means comprises (Page 2681 from B and Fig. 4, Page 2682), after a bidirectional hexagonal grating (microlens array) placed in the entrance pupil of an afocal system, a first lens focusing secondary beams

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